

Assessment of Suitability of Emission Trading Schemes (ETS)

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Abstract

The Emission Trading Scheme (ETS) stands as a pivotal global policy mechanism aimed at addressing the urgent challenge of climate change. This comprehensive strategy operates on the fundamental principle of assigning a monetary value to carbon emissions, intending not only to curb greenhouse gas emissions but also to incentivize the adoption of cleaner technologies. Within this context, the application of ETS within the transport sector assumes significant importance. Given that the transport sector is a major contributor to carbon emissions, especially through vehicles powered by fossil fuels, the implementation of ETS within this domain creates a financial incentive for companies and individuals to reduce their emissions. This, in turn, promotes the transition to cleaner transportation alternatives such as electric vehicles, public transportation, and alternative fuels. Globally, numerous countries have implemented ETS, or analogous carbon pricing mechanisms, to address emissions within the transport sector. For instance, the European Union has extended its ETS to encompass aviation, demonstrating a broadened scope of application. Similarly, California has established a cap-and-trade system specifically targeting transportation emissions. These initiatives exemplify the international acknowledgement of the transport sector's crucial role in achieving emission reduction targets and combating climate change on a broader scale. This research delves into the suitability assessment of Emission Trading Schemes (ETS) in the context of Sri Lanka, with a specific focus on land transportation. Acknowledged as one of the most cost-effective strategies for controlling greenhouse gas (GHG) emissions, ETS has gained global adoption, tracing its origins back to the Kyoto Protocol and Clean Development Mechanism. The primary objective of this study is to conduct a nuanced analysis of various ETS implementations worldwide and their compatibility with their respective local contexts. To achieve these objectives effectively, a methodological framework has been devised, incorporating both qualitative and quantitative approaches. The qualitative aspect involves a thorough examination of global ETS practices through a series of interconnected components. The research scrutinizes the worldwide expansion of ETS, revealing that ETS now covers a substantial 17% of global GHG emissions. This study identifies 25 active ETS systems and an additional seven in various stages of development, with regions such as Europe, North America, and the Asia Pacific actively considering the incorporation of land transportation into their respective ETS frameworks. Additionally, the research delves into the regulatory frameworks underpinning ETS schemes in different countries, evaluating their current status, whether in force, terminated, or under development. A common set of regulatory principles encompassing scope and coverage, emission caps, and the allocation of allowances is identified. Key aspects such as monitoring, reporting, verification, emission compliance, and offset mechanisms are also illuminated. Furthermore, the study identifies critical elements for the successful implementation of ETS, including factors like ETS penalties, emission trading prices, limitations (caps), and fuel consumption regulations. The quantitative facet of the research involves a questionnaire-based survey conducted through expert interviews and public perceptions. Expert interviews provide insights into the suitability of vehicle types for piloting ETS in Sri Lanka's transport sector,

assess the adaptability of predetermined ETS frameworks to the local context, and determine whether urban or urban plus regional areas are more suitable for pilot implementation. On the other hand, a public perception survey offers invaluable insights into awareness and preferences related to ETS among the general populace. Although initially, 64% of respondents were not familiar with Emission Trading Schemes (ETS), it is noteworthy that, following a detailed explanation of its features and significance, an impressive 96% expressed a strong preference for its implementation in Sri Lanka. This shift in perception highlights the potential for widespread support and acceptance once the public is informed about the positive impact and importance of ETS in mitigating climate change and reducing carbon emissions. The significant increase in support underscores the importance of comprehensive awareness campaigns to educate the public and garner backing for sustainable environmental initiatives. Respondents predominantly favoured decisions on emission quotas based on vehicle type and fuel consumption, with monitoring mechanisms involving user-provided updates and integration with fuel quotas being highly favored. In conclusion, this research underscores the global momentum for adopting ETS to combat pollution, especially within the transportation sector. The study provides valuable insights into the potential applicability of ETS to Sri Lanka's land transportation sector, with strong public support for its implementation. However, the effectiveness of ETS in this context will depend on the careful consideration of regulatory frameworks and key success factors identified in this research. Further studies and pilot implementations are warranted to tailor ETS to the local context and maximize its benefits in reducing emissions and addressing environmental challenges. A more nuanced analysis of the functions and key differences between various ETS systems will be crucial in assessing their applicability and suitability in the unique context of Sri Lanka.

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